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The Leave Vs Buy Decision

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Abstract
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The Lease Vs Buy Decision

Susan Brown

The Shortino family of Lodi, New Jersey may never buy another car. Joe, a construction worker, and Johanna, a part-time clerk, decided three years ago to dump their aging Datsun and lease a new Cadillac Eldorado for $550 a month. When their lease expires in May, the couple, who earn about $40,000 a year, will likely turn in the Eldorado for a new Caddy. Daughter Samantha, meanwhile, recently graduated from college and leased a Geo Storm subcompact for $240 a month. "We're pleased," says Johanna. "We'll probably lease more cars--mostly to save on the down payment." --Woodruff, 1994

I. INTRODUCTION

Leasing is becoming an increasingly popular method of automobile financing, but why is it advantageous for the Shortino family? Johanna Shortino stated that the principle advantage of leasing was the savings on the down payment. While this may be true, there are also other factors to consider. Consider the contrast in vehicles: an "aging" Datsun versus a new Cadillac. This shift is a significant trade upward among automobile classes and suggests another advantage to leasing--expensive cars are made affordable.

This paper aims to determine the factors--preferences and budget conditions--which may lead consumers such as the Shortino family to lease a vehicle as opposed to purchasing the vehicle on traditional installment loan credit. Section II provides background on leasing. Section III develops the underlying theoretical framework of the paper, and Section IV presents predictions for situations in which leasing would be more advantageous than Section V then provides a sensitivity analysis of changes in variables which can influence the lease/purchase decision. Finally, the conclusion summarizes the findings.

II. BACKGROUND

James J. Larkin addresses automobile leasing in his book, *Vehicle Leasing*. Larkin defines leasing as "the renting of automotive equipment by a lessor, who owns the equipment, to a lessee, who uses it for a specified period of time, for a specified fee" (Larkin, 1985). The lessor is usually a leasing company or an automobile dealership while the lessee may be either a firm or an individual. The vehicle may be leased for either business use or for personal use.

A. History of Leasing

Over the course of time, typical lessees have changed from fleet operators fulfilling transportation needs in a cost-effective way, and professionals capitalizing on tax benefits, to consumers desiring practical transportation for themselves and their families. This recent trend in leasing is evidenced by data from the National Vehicle Leasing Association (NVLA) which indicate that between 1982 and 1987, private new car leasing volume accelerated at an average annual rate of 24 percent, reaching 750,000 leased vehicles in 1987. This is equivalent to seven percent of the retail new car sales market (Nunnally, 1989). It is predicted that by the end of the decade one-half of all cars and trucks will be leased (Woodruff, 1994). The leasing trend has been especially noteworthy in the luxury car segment. For example, nearly 90% of the Jaguar XJ models are leased (*Consumer Reports*, 1993). In *Vehicle Leasing*, Larkin

commented on the leasing trend as follows: "Leasing of automotive equipment is not new, nor is it a 'gimmick' due to disappear from the automotive scene--it has become a recognized way of merchandising cars and trucks" (Larkin, 1985).

B. Types of Leases & Lease Terminology

There are two general categories of leases: financial leases and operating leases. Financial leases predominate with business equipment and have three principal characteristics: (1) the payments cover the entire cost of the leased equipment and are made on a long-term basis (greater than five years), (2) the lessee is usually responsible for taxes, insurance, and maintenance, and (3) the lease cannot be canceled without a substantial penalty (Ross, 1995).

Consumer lease agreements, on the other hand, are typically operating leases (Nunnally, 1989). In contrast to long-term financial leases, operating leases are usually short term (less than five years), and the payments made by the lessee usually do not cover the full cost of the asset in question (Ross, 1995). In an operating lease, the lessee pays only for the depreciation of the asset, whereas in a financial lease, the lessee pays the entire cost of the asset. In addition, an operating lease ordinarily requires the lessor to pay for maintenance of the asset, and the lessee has the option to terminate the lease prior to the expiration date. Upon cancellation, the lessee ceases payments and returns the equipment to the lessor without penalty (Ross, 1995).

Typical automobile leases are hybrids of financial leases and operating leases. Like operating leases, automobile leases are usually short-term and the payments cover only the cost of depreciation. As in financial leases, though, maintenance is ordinarily the responsibility of the lessee. For an automobile, maintenance would include taxes, insurance, fuel, and routine up-keep such as oil changes. Moreover, as in financial leases, the lease can be terminated, but there usually is a substantial penalty. The characteristics of a typical automobile lease are summarized in Table 1.

Leases can be further divided into open-end leases and closed-end leases. In open-ended leases, the lease agreement contains an option that allows the lessee to purchase the asset at the end of the lease (Nunnally, 1989). An open-end lease may also require the lessee to make an end-of-contract payment. This payment is used as compensation to the lessor when the market value of the asset is below the estimated value reported in the lease contract (Nunnally, 1989). Thus, the lessee assumes the risk that the asset will not be worth the estimated residual value.

In a closed-end lease, on the other hand, the lessee has no financial obligation to the lessor, provided the asset is returned undamaged and without excess wear. In the closed-end lease, the lessor assumes the risk that the returned asset is not worth the residual value estimated at the beginning of the lease (*Consumers' Research*, 1987). Even in closed-end leases, however, it is usual for the lessor to offer the lessee an option to purchase the asset at the end of the lease. Automobile

Table 1: Characteristics of an Automobile Lease

Term (Operating Lease)	Short term
Payments (Operating Lease)	Based on depreciation
Maintenance (Financial Lease)	Lessee assumes maintenance
Cancellation (Financial Lease)	Lease can be canceled, but generally with substantial penalty

leases are available in both open- and closed-end forms. For consumers, closed-end leases are desirable because the lessor assumes the risk that the vehicle will not be worth the predicted value at the end of the lease.

While there are different types of leases, the terminology used within most lease contracts is very similar. First is the vehicle's **capitalized cost**. The capitalized cost is the amount for which the dealer is "selling" the vehicle. (Levy, 1992). This cost can be negotiated and should be equal to the price if the vehicle were to be purchased. Next is the vehicle's **residual value**, or the monetary value of the vehicle at the termination of the lease (Levy, 1992). The residual value is usually expressed as a percentage of the vehicle's original price. The residual value is a key element in the lease; it allows monthly lease payments to be less than monthly payments for a vehicle purchased on installment credit (Levy, 1992). An additional leasing term is the **capitalized cost reduction**, similar to a down payment. The capitalized cost reduction is a nonrefundable initial payment which lowers the capitalized cost. The interest rate considered in the lease is the **money factor**. It is equivalent to the finance charge on an installment loan. In addition, a **security deposit** is often required at the beginning of the lease. The security deposit is usually refundable and will be applied to any additional charges such as wear and tear which may accrue over the lease period.

III. THEORY

A consumer's decision to lease or purchase an automobile is derived from two components: preferences and budget conditions. Each consumer has individual preferences. Due to these preferences, different individuals will make different choices even in the face of the same budget conditions. The budget constraint and its determinants--income and relative prices--must also be considered. The same individual with the same preferences will make different choices if income and/or relative prices change.

A. Preferences: Why do consumers do different things given the same budget?

A consumer's preferences are mostly intangible, and often there is no way to quantify them. However, there are characteristics of leasing which make it preferable to some consumers. For example, leasing makes it possible to obtain a more luxurious car. Thus, all other factors constant, a consumer with a greater preference for luxury would be more likely to lease. This preference is illustrated by the Shortino family.

In addition, some consumers prefer to change vehicles quite frequently. Leasing can make this practice relatively easy. Typical leases have short terms ranging from two to five years. At the end of the term, the consumer can return the vehicle with the freedom to obtain a different vehicle. If a consumer purchases a car, he will be forced to find an outlet for his current automobile before he can obtain another.

It is also important to consider the consumer's liquidity preference. Liquidity preference refers to the preference for cash outflows that has the least adverse effect on a particular cash situation (Isom, 1982). Important considerations when evaluating liquidity are the amount of the down payment, the security deposit (if required), the amount of the monthly payment, and the length of the payments. Evaluating liquidity also involves examining the present cash position and cash flow of the consumer--short term and long term, as well as credit rating. In general, the down payment, the monthly payment, and the length of the payments are less in leasing as opposed to purchasing. There is considerable residual value involved in a vehicle purchase, which "ties up" assets. As a result, an individual with a high liquidity preference, all

other variables constant, would benefit from leasing because (1) the lower payments involve relatively lower cash outflows than loan purchase payments, and (2) the "tying up" of assets in the residual value of the vehicle is avoided. Thus, leasing a vehicle would have the least adverse effect on the cash situation.

While the above characteristics of leasing can make it favorable for some consumers, there are other characteristics of leasing which would make it less desirable. First, leasing builds no equity. Thus, one may be lured into owing monthly payments for life (Woodruff, 1994). An additional consideration for the liquidity preference is the security deposit which may be required. Even if the deposit is refundable at the termination of the lease, the fee is nonetheless "tied up" until expiration.

In some circumstances, purchasing a vehicle is advantageous. For example, some individuals have a strong desire to be "owners." That is, they prefer to own as opposed to rent, and often they take great pride in and derive satisfaction from ownership. Some consumers also want the finality associated with the last car payment. This is similar to ownership preference, for the consumer officially becomes the owner at the final payment.

An additional variable is uncertainty. There may be varying degrees of uncertainty inherent in certain aspects of the lease alternative. In addition, some lessors place restrictions on their lessees. One such example is a dealership in California which requires all leased automobiles to remain within the state of California. As a result, lessees would not be permitted to take their vehicles out-of-state. And if the lessee were forced to relocate to a different state, termination of the lease would be required.

B. Budget: Why do consumers do different things given the same preferences?

The following discussion will focus on relative prices. Relative prices can be evaluated using traditional consumer finance theory. The financial framework, drawn from the work of Bennie H. Nunnally, Jr. and D. Anthony Plath, considers the cash flows associated with the financing alternatives (leasing and purchasing), the period of time in which the cash flows occur, and the opportunity cost of capital. From these variables, the least costly alternative can be identified. In the analysis, it is assumed that preferences remain constant. It is also assumed that consumers possess enough income to purchase the given vehicle. If this is true, the consumer can weigh the relative cost of leasing the vehicle against the relative cost of purchasing the given vehicle.

"While there is an initial and periodic advantage to leasing, it is often diminished by differences in the wealth positions at the end of the lease."

As stated previously, consumers often choose leasing over the installment loan purchase alternative because of the lower down payment and lower monthly payment. This is reaffirmed by Johanna Shortino's testimony in the introduction. Mrs. Shortino chose leasing in part because of the smaller down payment required. Even when initial charges such as the security deposit are included, the up-front costs associated with leasing are generally less than those incurred in an installment loan purchase. As a result of these lower costs, there is an initial cost savings associated with leasing. And since the monthly lease payments are usually less than monthly installment loan payments, there is

also a periodic savings associated with leasing.

While there is an initial and periodic advantage to leasing, it is often diminished by differences in the lessee/purchaser wealth positions at the end of the lease. That is, installment loan purchasers acquire ownership of the vehicle following the final loan payment. The assets which are "tied up" in that vehicle are valuable. In contrast, lessees surrender the leased assets without compensation at the expiration of the lease contract and do not have a vehicle to represent the value of their payments. The value has been exhausted; the lessee paid for the *service* of the vehicle.

Using financial analysis, it is possible to calculate the required rate of return necessary to transform the realized cash advantage (initial and periodic) of leasing into the market value of the purchaser's vehicle at the expiration of the lease (Nunnally, 1989). Nunnally and Plath call this required rate of return the "effective annual lease hurdle rate (K)." By investing the cash differential from leasing at a rate of return greater than the hurdle rate, the lessee can achieve total wealth equal to that of the purchaser at lease maturity. *In essence, the hurdle rate is the opportunity cost of purchasing.* If the return on investment is greater than the hurdle rate, the opportunity cost of leasing is less than that of purchasing. The greater the (positive) differential between the market rate of return and the hurdle rate, the greater the opportunity cost of purchasing. On the other hand, in choosing to purchase, the consumer "gives up" any return on savings realized from leasing. The calculation of the hurdle rate requires: (1) a set of lease contract conditions, and (2) a set of installment loan conditions. It can be calculated as follows:

First, the initial cash outlay differential must be calculated. Let **C** be defined as the initial cost savings provided by leasing where **D** is the down payment in installment loan purchases, and **Z** is the capitalized cost reduction.

$$\textbf{Eq. 1} \qquad C = D - Z$$

Next, let P_t and L_t represent the periodic purchase and lease payments in period t, respectively. ("t" indicates the period, from 1 to "n".) M_t is defined as the periodic cash savings derived from leasing:

$$\textbf{Eq. 2} \qquad M_t = P_t - L_t$$

Finally, R_n signifies the net residual value of the leased vehicle at the expiration of the lease (minus the security deposit returned to the lessee in period n, where n is the number of payments). It is assumed that the residual value of the vehicle stated in the lease contract is the actual residual value at the end of the lease. The periodic lease hurdle rate, **k**, is calculated by solving Eq. 3 for k. The equation has three components.

$$\textbf{Eq. 3} \qquad R_n = C(1+k)^n + \Sigma\, M_t(1+k)^t$$

"k" is a monthly rate which can be expressed as an effective annual lease hurdle rate, **K**:

$$\textbf{Eq. 4} \qquad K = [1+k]^{12} - 1$$

An important assumption which must be made regarding the hurdle rate analysis is that the consumer can invest savings at some market interest rate. To control for volatility in market interest rates, and thus rates of return over time, the market interest rate used to evaluate the lease hurdle rate should represent the *average* annual after-tax return that consumers expect to earn on invested cash over the life of the lease (Nunnally, 1989).

If the after-tax rate of return is greater than the hurdle rate, k, then leasing provides a greater total wealth (Nunnally, 1989). The lessee can invest the net cash differential realized from leasing at market interest rates, and this investment will grow over the term of

the lease to exceed the expected value of the purchased asset. Hence, in this situation, one would expect a consumer to lease. However, if the hurdle rate exceeds this after-tax rate of return, the purchasing alternative is more favorable. Here, the future value of the invested net cash differential from leasing is less than the vehicle's market value at lease maturity. That is, the money would be more valuable if spent on the vehicle and later reflected in the vehicle's residual value than if invested at market interest rates. In this case, the wealth of the vehicle owner will exceed the value of the lessee's investment at the termination of the lease (Nunnally, 1989). As a result, in this instance it is expected that the consumer would purchase.

Now consider the effect of the residual value, R_n, on the hurdle rate. A consumer who leases a vehicle pays only the depreciation--the difference between the capitalized cost and the residual value--plus an interest equivalent. As the residual value of the vehicle increases, the hurdle rate will also increase. Thus, the greater the percentage residual value of the vehicle, the greater is the consumer's financial incentive to purchase as opposed to lease. For a vehicle with a relatively high percentage residual value, it is expected that the consumer would purchase.

"For the lessee's wealth position to be equal to that of the purchaser, he must achieve a higher rate of return on the invested cash differential."

Also consider the consumer's automobile use patterns and their relationship to the hurdle rate analysis. Most lease agreements charge a fee for any mileage in excess of a given number, usually 15,000 miles per year. The charge ranges from 10 to 15 cents per mile. Therefore, for every 1,000 miles in excess of 15,000 miles, the cost of leasing can be increased by $100-$150. For high mileage drivers, the added cost can be considerable. A related factor in automobile use is the "wear and tear" on the automobile during the lease. Lessors often impose hefty charges for excess wear and tear. While lessors may require a deposit for excess wear and tear, the overall cost of wear and tear will not be determined until the lease expires.

The effect of automobile use patterns can be integrated into the hurdle rate analysis by including variable **F** which represents any additional charges which may be due at the end of the lease. Components of F include excess wear and tear charges as well as excess mileage charges. The incorporation of F into the hurdle rate analysis alters Eq. 3 as shown below.

Eq. 3a $$R_n = C(1+k)^n + \Sigma M_t(1+k)^t - F$$

As F increases, either by excess mileage accumulation or excess wear and tear charges, the hurdle rate will also increase. As a result, for the lessee's total wealth position to be equal to that of the purchaser, he must achieve a higher rate of return on the invested cash differential. Additional factors such as income, market interest rates, tax laws, and consumer information may also contribute to the trend in leasing. One factor which can be evaluated within the hurdle rate analysis is the change in tax laws. In the past, a major benefit of purchasing on installment loan credit was the tax deduction for interest. The Tax Reform Act of 1987 (TRA) phased out the personal interest deduction for vehicle installment purchases (Nunnally, 1989). In 1987, 65 percent of the interest was tax deductible, forty percent in 1988, twenty percent in 1989, ten percent in 1990, and none thereafter

(Nunnally, 1989). The change in tax laws caused the alternative methods of financing automobiles, including leasing, to be relatively less expensive for consumers.

The hurdle rate analysis can be adapted to consider the tax deductibility of interest payments. Let I_t represent the periodic portion of the loan payment devoted to interest. The percentage of tax deductible interest is denoted as Y, while Z represents the consumer's marginal tax rate. Accounting for the tax deductibility of installment loan interest changes Eq. 2 as follows:

Eq. 2a $M_t = [P_t-(I_t)(Y)(Z)] - L_t$

It is predicted that as the percentage of interest that is tax deductible decreases, the hurdle rate will also decrease. As a result, the required rate of return that the lessee must obtain to achieve wealth equal to that of the purchaser at the end of the lease also decreases.

IV. PREDICTIONS OF MODEL

The theory outlined above suggests that the increased popularity of leasing may be attributed to changes in either consumer preferences or relative prices. Section III.A. presents consumer preferences which affect the lease / purchase decision. Individual preferences explain why certain individuals lease while others purchase. However, the trend in leasing is more likely to have resulted from changes in budget conditions as presented in Section III.B. The following predictions are derived from the discussion concerning budget conditions.

1a. A direct relationship exists between the residual value of the vehicle and the hurdle rate.

1b. Given a percentage residual value, the hurdle rate for a luxury car will be less than the hurdle rate for an "average" car.

2. A direct relationship exists between excess mileage and the hurdle rate.

3. A direct relationship exists between excess wear and tear charges and the hurdle rate.

4. A direct relationship exists between the percentage tax deductibility of installment loan payments and the hurdle rate.

Section V presents a sensitivity analysis to evaluate the predictions listed above. The data for the hurdle rate analysis include a set of lease contract conditions and a set of installment loan conditions for two different vehicles. Two vehicles were evaluated to demonstrate that effects may be different for "average" and luxury vehicles. Data for the first vehicle, an unnamed GM product (purchase price-$12,000), is obtained from, "Leasing and Borrowing: Evaluating Alternative Forms of Consumer Credit," *The Journal of Consumer Finance*. Data for the second vehicle, an Acura NSX-T (purchase price: $74,723.43), is obtained from, "Lease Your Dream," *Automobile*. The unnamed GM vehicle was chosen to represent an "average" vehicle. The Acura NSX-T was chosen to represent a luxury vehicle.

The sensitivity analysis was conducted for each prediction. Analyses were run both for the "average" vehicle and for the luxury vehicle. In evaluating Prediction 2, the total excess mileage charge is calculated using a rate of 15 cents per mile. This rate was used because of its acceptance in the automobile leasing industry. In evaluating Prediction 4, .28 was used as the marginal tax rate. This rate was used because it is a rate characteristic of a substantial portion of the population.

V. SENSITIVITY ANALYSIS

The sensitivity analysis of Prediction 1a. is presented in Table 2.

The analysis was performed for residual values as a percentage of initial vehicle cost ranging from 10% to 90% in increments of 10%. Separate analyses were conducted for

Table 2: Sensitivity of the Lease Hurdle Rate, K, to Changes in Vehicle Residual Value

Residual Value as a Percentage of Initial Cost	GM Lease Hurdle Rate (%)	Acura Lease Hurdle Rate (%)
10%	-32.41%	-82.99%
20	-13.33	-55.65
30	0.89	-36.45
40	11.12	-21.68
50	19.28	-9.53
60	26.12	0.88
70	32.06	10.05
80	37.33	18.28
90	42.09	25.77

the "average" vehicle and the luxury vehicle. The results are as expected: as the percentage residual value increases, the hurdle rate also increases. As expected, negative values appear, and in these instances leasing is significantly less expensive than purchasing. In fact, even if the lessor does not invest the cash differential, he will still achieve total wealth equal to that of the purchaser upon termination of the lease. For the GM vehicle, the hurdle rate increased from -32.41% to 42.09%. For the Acura, the hurdle rate increased from -82.99% to 25.77%. In this instance, the differential is greater for the Acura. This is due to the fact that a 10% increase in the residual value of the Acura is much greater than that of the GM. As a result, the Acura hurdle rate increases more dramatically than the GM hurdle rate.

In addition, Prediction 1b. can be analyzed by choosing a percentage residual value and then comparing the resulting hurdle rates for the GM and the Acura. As can be seen in Table 2, at every percentage residual value the hurdle rate is less for the Acura than the GM. For example, at a residual value of 60%, the hurdle rate for the GM vehicle is 26.12% while the hurdle rate for the Acura is 0.88%. Concerning the GM vehicle, one would expect the consumer to purchase because it would be difficult to obtain a 26.12% rate of return on his investment. On the other hand, in considering the Acura, one would expect the consumer to lease because it would be relatively easy to obtain a 0.88% rate of return on his investment. This confirms that leasing is relatively less expensive for luxury cars and explains its prevalence in the luxury car market.

The results for the analysis of Prediction 2 are presented in Table 3.

The results are as predicted: as excess mileage charges increase, the hurdle rate increases. For the GM vehicle, as excess mileage increases from 0 to 10,000 miles, the lease hurdle rate increases from 11.75% to 21.59%. For the Acura, the hurdle rate increases from 1.38% to 3.31%. The differential in the hurdle rate for the GM vehicle (9.84 percentage points) is much greater than the differential for the Acura (1.93 percentage points). This differential is the result of the variance in the residual value of each vehicle. A $2,000 charge on the GM

Table 3: Sensitivity of the Lease Hurdle Rate, K, to Changes in Excess Mileage

Excess Mileage (Miles)	Charge ($)	GM Lease Hurdle Rate (%)	Acura Lease Hurdle Rate (%)
0	$0	11.75%	1.38%
1000	150	12.85	1.58
3000	450	14.95	1.97
5000	750	16.95	2.35
10,000	1500	21.95	3.31

vehicle which has a residual value of $4,659 is much more substantial than the same charge on the Acura with a residual value of $44,048.75. For both vehicles, as excess mileage increases, leasing becomes relatively more expensive. Thus, a consumer who expects to accumulate many excess miles would probably purchase instead of lease. However, this effect is more dramatic for the "average" GM vehicle than for the luxury Acura. As a result, excess mileage considerations are probably a more important factor for those who lease "average" vehicles as opposed to luxury vehicles.

The results for the analysis of Prediction 3 are presented in Table 4. The results are as predicted. That is, as excess wear and tear charges increase, the hurdle rate increases. For the GM vehicle, as excess wear and tear charges increase from $0 to $2000, the lease hurdle rate increases from 11.75% to 24.42%. For the Acura, the lease hurdle rate increases from 1.38% to 3.94%. As in the analysis of Prediction 2, the differential in the lease hurdle rate (12.67 percentage points for the GM vehicle and 2.56 for the Acura) can be explained by the amount of the charge relative to the residual value of the vehicle. As a result of excess wear and tear, leasing becomes relatively more expensive. The effect of excess wear and tear charges is similar to that of excess mileage charges. The expectation of high excess wear and tear charges would probably cause a consumer to purchase. It is also likely that excess mileage charges are a more important consideration for those leasing "average" vehicles as opposed to luxury vehicles.

The results of the analysis for Prediction 4 are presented in Table 5.

Table 4: Sensitivity of the Lease Hurdle Rate (K) to Excess Wear and Tear Charges

Excess Wear & Tear Charge	GM Lease Hurdle Rate (%)	Acura Lease Hurdle Rate (%)
$0	11.75%	1.38%
500	15.29	2.03
1000	18.55	2.67
1500	21.59	3.31
2000	24.40	3.94

Table 5: Sensitivity of the Lease Hurdle Rate, K, To Changes in the Tax Deductibility of Interest

Percentage Tax Deductibility of Installment Loan Interest	GM Lease Hurdle Rate (%)	Acura Lease Hurdle Rate (%)
100%	18.25%	5.67%
65	16.67	4.49
40	15.36	3.65
20	14.31	2.98
10	13.78	2.65
0	11.75	1.38

Analyses were conducted for percentage tax deductibility beginning with 100%. The percentages used were chosen to show the possible effect of the Tax Reform Act of 1987 on the trend in leasing. The results are as expected: as the percentage deductibility decreases, the hurdle rate decreases. This is because the tax deduction of interest makes loan payments relatively lower. Thus, the incremental savings from leasing is less, so the lower differential must be invested at a higher rate of return to equal the total wealth of the purchaser upon maturity of the lease. When interest on installment loan payments is tax deductible, it is more likely that the consumer will purchase. This analysis also suggests that the Tax Reform Act of 1987 may have perpetuated the trend in leasing. And as before, the effect is more dramatic for the "average" vehicle as opposed to the luxury vehicle.

VI. CONCLUSION AND FURTHER RESEARCH

This paper has argued that the decision to lease or buy is a result of consumer preferences and relative prices. Table 6 summarizes consumer preferences and their relation to the lease / purchase decision, *ceteris paribus*.

Table 6: The Effect of Preferences on the Lease or Purchase Decision

A consumer should consider leasing if he or she has . . .	A consumer should consider purchasing if he or she has . . .
a high affinity for luxury or relatively expensive vehicles	a high preference for owning a vehicle
a high rate of turnover in vehicles	a high desire for the finality of the last loan payment
a high liquidity preference	a high degree of uncertainty regarding his or her short-term situation

With regard to prices, several variables can influence a consumer's decision to buy or lease a vehicle. Leasing luxury vehicles is often relatively less expensive than leasing an "average" vehicle or purchasing the luxury vehicle. Excess mileage charges and excess wear and tear charges increase the relative cost of leasing. This effect is more dramatic for "average" vehicles as opposed to luxury vehicles. Finally, the tax deductibility of interest on installment loan payments makes leasing relatively less expensive. This suggests that the Tax Reform Act of 1987 has likely contributed to the trend in leasing. Any future tax policies concerning the deductibility of interest on installment loan credit could also affect the trend.

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